

## ABSTRACT OF THE DISCLOSURE

## FIBER-OPTIC FLOW CELL AND METHOD RELATING THERETO

The present invention is for a fiber optic flow cell. The flow cell comprises a substrate having at least one sample channel and at least one optical fiber channel holder. At least one optical fiber is disposed within each optical fiber channel holder. Each optical fiber has at least one grating wherein each grating is in contact with each sample channel, defining a sensing area. At least one sample port is positioned in an operable relationship to at least one sample channel. Alternatively, at least one sample outlet is positioned in an operable relationship to at least one sample channel.

The flow cell may be of a modular design providing a flow cell kit that contains pieces that may be assembled to form custom-made flow cells. The flow cell is used for conducting measurement studies on a sample.